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Group-specific Engineering Document Management Plan (Template—see instructions in [APS 1429449](#))

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Group-specific Engineering Document Management Plan (Template—see instructions in [APS 1429449](#))

1 Introduction

This document sets forth group-specific guidelines for management of engineering documents and drawings consistent with the Managing APS Documents Policy ([APS 1273342](#)). The (insert NAME) Group is required to have such a policy in place to guide their staff in the details of controlling their engineering documents under this procedure.

1.1 Related Documents

- Managing APS Documents Policy ([APS 1273342](#))
- Managing APS Engineering Documents ([APS 1423689](#))
- APS Design and Drafting Drawing Standard ([APS 1429632](#))
- [Argonne Quality Assurance Program Plan](#)

2 Repository Use and Revision Tracking for Engineering Documents

[Table 1](#), which is copied from the Managing APS Documents policy ([APS 1273342](#)), maps the valid document repositories with the workflows that are supported by each repository.

Table 1: Work Flows and Revision Tracking Capability per Repository Type

| Repository | Staff-controlled / No Revision Tracking (Not a controlled document) | Staff-controlled / Revision Tracking (Not a controlled document) | Controlled Document (A formal change procedure including an approval workflow and Revision Tracking) |
|---|--|--|---|
| Group-Shared File System (GSFS) | X | | |
| Group-Shared File System Plus a Revision Control System (RCS) | | X | |
| ICMS | | X | X (with approval thread) |
| Vault | | | X |
| PDMLink | | | X |

Groups are encouraged to use a graded approach for managing their engineering documents by applying more rigorous revision control to those documents that are most

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critical. The [Argonne QAPP](#) offers good examples of criteria that can be used to implement a graded approach.

The left column of [Table 2](#) lists the types of documents generated by the group in its routine operation. The rest of the table gives guidance on which workflow and repository should be used for each type of document. It is recommended that groups follow this guidance. However, it is for each group to determine which workflow and repository best suit their needs.

Table 2: Work File Repository Usage

| Criteria | Staff-controlled/ No Revision Tracking | Staff-controlled / Revision Tracking | | Controlled Document | | | Drawing must meet D&D Standard (APS_nnnnnnn) |
|--|--|--|------|--------------------------------------|-------|-------------|---|
| | Group-shared File System (GSFS) | GSFS + RCS | ICMS | ICMS (with approval thread) | Vault | PDMLin k | |
| SAFETY: RSS Critical Component or Personnel Safety Related | | | | X | X | X | X |
| MISSION CRITICAL: Machine Protection or Critical for Operation | | | | X | X | X | X |
| COST: | | | | | | | |
| Fabrication exceeds \$100K | | | | X | X | X | X |
| Fabrication exceeds \$10K | | | | X | X | X | |
| Fabrication exceeds \$2K | X | | | | | | |
| EXTERNAL USE: Subject to External Review Fabrication by external vendor Possible Use at Other Facilities | | | | X | X | X | X |
| Legacy drawings: Criteria ... | X | | | | | | |
| Document/File Types | | | | | | | |
| AutoCAD | | | | | X | | |
| Solidworks | | | | | X | | X |
| Pro/E | | | | | | X | X |
| FPGA Code | | X | | | | | |
| PLC Ladder Logic Source Code | | | X | X | | | |
| Software Source Code | | X | | | | | |
| DEFAULT | | | X | X | | | |

Additional Guidance:

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3 Group-shared File Systems and Revision Control Systems (RCS)

Group-shared File Systems must reside on either the oxygen or phoebus servers. A group may have more than one shared file system, particularly if a Revision Control System (RCS) is used on one of them. If your group needs a new shared file system created, submit an IT Help Desk ticket for an “EDP Group-shared File System.”

List the Group-shared Files Systems for your group following the examples below:

Path: /net/phoebus/asdctl

Type of RCS: svn

Directory Structure Guidance:

/net/phoebus/asdctl/modules/... (all custom modules go here)

/net/phoebus/asdctl/fpgacode/... (all fpga code goes here)

Path: /net/oxygen/edp/aes_med

Type of RCS: none

Directory Structure Guidance:

/net/oxygen/edp/aes_med/<STAFF_NAME> (each staff member has a directory for their use)

4 Document/Drawing Requirements

To provide consistency within this group and with other groups, the following requirements for drawings should be used.

| Criteria | Drawing Requirements |
|---|---|
| All Drawings | EDN # or valid Alias must be on drawing Title Block similar to ... Other? |
| Safety-Related Systems Work For Others | Use Design & Drafting Standard for all drawings associated with these projects |
| Other | Other |

5 Software Tools

Standardized software applications for certain engineering drawing requirements are listed in the table below.

| Document/Drawing Type | Software Tools |
|--|---|
| Schematic Capture | Orcad Capture |
| PC Layout | Orcad Layout |
| FPGA Programming | Altera Quartus, Xilinx ISE |
| PLC Programming | |
| Mechanical Layouts (Front Panels, Chassis, etc) | AutoCAD Lite, Visio |
| Feature Sheet | Single page Word document with picture of product |
| Block Diagrams | Orcad, Visio, PowerPoint |
| Wiring Diagrams | Orcad, Visio, PowerPoint |
| Project Description | Wiki Page |

6 Alias Project Naming Convention (if any)

Examples:

- For component types, the Controls Group will continue to use the Model Name/Number currently assigned.
- For installed systems, the Controls Group will continue to use the AOI naming scheme.
- The RF Group will continue to use the drawing package naming convention described in [APS_1285936](#) as alias project #s.

7 Alias Drawing Naming/Numbering Convention (if any)

Example:

- The RF Group will continue to use the drawing numbering convention described in [APS_1285936](#) as alias drawing #s.

8 Group-specific EDP Collection Browse Categories

The Engineering Document Portal allows staff to define “collections” of documents that correlate to a project, component, or subsystem. These collections may be assigned group-specific tags to allow intuitive searching and browsing of the collections. Up to three group-specific menus may be defined, where cascaded menus may be dependent on the item chosen from the previous menu (i.e., each item in GroupMenu1 can specify a different GroupMenu2).

Illustrated below (using indents) are two examples of group-specific menus.

GroupMenu1 would be all level1 items, with each level1 item generating a GroupMenu2 with level2 items.

Example 1:

- LINAC
 - L1
 - L2
 - L3
- PAR
- Booster
- SR
 - RF1
 - RF2
 - RF3
 - S36
 - S37
- SPX

Example 2:

- Application
 - LINAC
 - Booster
 - SR
- Component
 - Chassis
 - VME

Groups should give careful consideration to the definition of these menus to best organize their collections in an intuitive way.

9 Feedback and Improvement

If you are using this procedure and have comments or suggested improvements for it, please go to the [APS Policies and Procedures Comment Form](#)^{*} to submit your input to a Procedure Administrator. If you are reviewing this procedure in workflow, your input must be entered in the comment box when you approve or reject the procedure.

Instructions for execution-time modifications to a policy/procedure can be found in the following document: Field Modification of APS Policy/Procedure ([APS_1408152](#)).

^{*} http://centraldocs.aps.anl.gov/comment_form.php